Small Saint-Gaudens managing exotic invasives

By Betsie Blumberg

Resource Manager Steve Walasewicz releases beetles in a field of invasive, exotic purple loosestrife vegetation. The biological control is one mechanism that is helping the small northeastern park see the results from executing its Exotic Plant Management Plan.

Controlling invasive vegetation is an especially high priority at Saint-Gaudens National Historic Site in Cornish, New Hampshire. Invasive plants have the capacity to quickly overwhelm native vegetation and alter habitats in the small, 150-acre (61-ha) park. Consequently, staff are implementing the park's Exotic Plant Management Plan and making substantial progress.

The park includes the historic home, studios, and 100-year-old formal gardens of its namesake, the American sculptor Augustus Saint-Gaudens. Surrounding these cultural features, forest makes up about 80% of the park. The most troublesome invasives are purple loosestrife (*Lythrum salicaria*), Norway maple (*Acer platanoides*), Japanese barberry (*Berberis thunbergii*), black swallow-wort (*Vincetoxicum nigrum*), yellow iris (*Iris pseudocorus*), and Morrow honeysuckle (*Lonicera morrowii*). Various methods of control are being employed, from cutting down Norway maples and pulling up seedlings to releasing beetles (*Galerucella* sp.) to attack the purple loosestrife. The formal garden itself is a source of exotics; Japanese tree lilac (*Syringia reticulata*) growing in the garden across the road from woodland has produced offspring in the forest.

Inventory and mapping of 17 invasive species were completed in 2003, and information on the location, size, density, and distribution of the populations was stored in GIS format. With these data the control phase of the plan was launched.

To pay for the labor to implement the plan, the park tapped various funding sources. The NPS Public Land Corps supported three interns, hired through the Student Conservation Association, who each spent nine months at the park doing the inventory and mapping, assisting with the preparation of the plan and associated compliance documentation, and undertaking control operations in the field. Local Boy Scouts and other volunteers occasionally lent a hand, too. Removing the invasives will eventually include collaborating with nearby Marsh-Billings-Rockefeller National Historical Park (Vermont) to obtain seasonal field personnel. The park also plans to work closely with the Northeast Region's newly established Exotic Plant Management Team, stationed at Delaware Water Gap National Recreation Area (Pennsylvania and New Jersey).

The small size of the park provides a special opportunity to control invasive plants and restore native species. The remaining exotics, says Natural Resource Manager Steve Walasewicz, will then mimic their presence in their native environments, where they are not invasive. ■

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Implementing the Natural Sounds Program

By Bob Rossman

NATIONAL PARKS may seem to be the perfect place for quiet, solitude, and contemplation, yet managers must also address the needs of recreationists who may want to pursue activities that are loud or intrusive. Noise has the potential to affect wildlife and cultural resources and diminishes wilderness values to the extent that desired visitor experiences and expectations may not be realized. The Natural Sounds Program, initiated in 2000, assists a number of parks in dealing with such issues by collecting acoustic data, providing impact assessments, defining problem areas, and recommending potential solutions.

"Park managers must determine the level to which natural sounds are to be protected, preserved, or restored, as well as the type and amount of human-caused sound that is necessary or desirable in light of park purposes."

In 2003 the Natural Sounds Program developed practical guidance for parks in developing soundscape management and noise prevention plans. Guidelines help park field personnel and managers understand and apply the fundamentals of acoustic science. In a related development, the Natural Sounds Program completed a section of the "Interim Final Guidance on Assessing Impacts and Impairment to Natural Resources" (April 2003) to provide assistance in noise impact analysis.

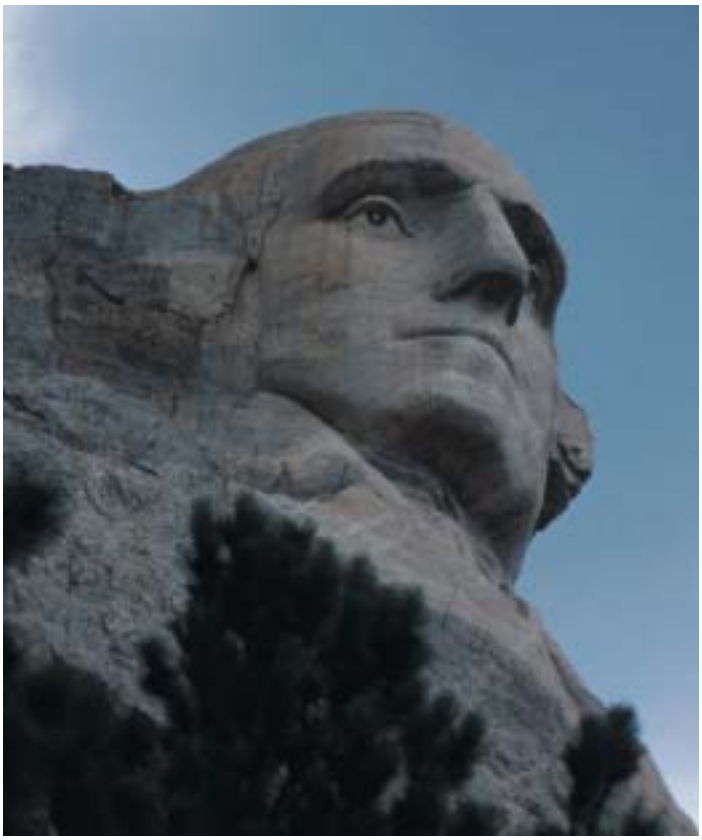
Zion, Hawaii Volcanoes, Haleakala, and Lassen Volcanoes National Parks are using the guidelines to draft proposals for soundscape management plans. These and other parks initiated planning efforts in response to increased sources of noise that could affect park soundscapes. A soundscape management plan suggests the characteristics and appropriateness of existing noise in relation to the natural condition and purposes for which a park was established, providing the basis for scientific assessment of noise impacts associated with proposed actions by the National Park Service or others.

The study of acoustics, as it relates to preserving natural or culturally important sounds in parks, is an evolving science. Acoustic sampling programs are intended to characterize a national park soundscape that may be viewed as "natural ambient" or "baseline," without the sounds caused by the presence and movement of people. Further data collection efforts are made to measure human-related sounds that are imposed on the natural soundscape. The collection of data can involve methods as simple as listening to sounds over a period of time (audibility) and recording their source and duration. Information about weather, particularly wind, must be collected at the same time in order to interpret measurement results. The collection of acoustic data is a prelude to making determinations about sound or noise in national park units. Park managers must determine the level to which natural

sounds are to be protected, preserved, or restored, as well as the type and amount of human-caused sound that is necessary or desirable in light of park purposes.

Another major emphasis for the Natural Sounds Program in 2003 was the initiation of air tour management planning. Under the National Parks Air Tour Management Act, the Federal Aviation Administration (FAA) is the lead agency for producing an air tour plan for each affected park. The National Park Service is a cooperating agency with joint signature authority for the plans. In early 2003, all existing and prospective air tour operators were required to apply in order to engage in this activity. Applications were received for more than 100 park units instead of the expected 55, requiring the preparation of plans for more than 100 parks over the next several years.

Commercial flight services operating in national parks can produce sound intrusions that diminish the park experience and affect natural resources. However, with careful planning and cooperation these intrusions can be minimized. For example, Badlands National Park boasts a good relationship with its air tour operator, who has agreed to avoid bighorn sheep habitat and to operate the helicopter in a way that minimizes rotor noise. The air tour plan for Badlands accommodates not only the operator's business interests but also the interests of park resource protection, maintaining a quality visitor experience, and safety.



Air tour planning was initiated at Mount Rushmore National Memorial (above) and Badlands National Park (left), South Dakota, and several other units of the National Park System in 2003.

Natural Sounds Program staff, working with FAA counterparts, is developing appropriate planning procedures by which to conduct these efforts. Air tour planning projects were initiated at 15 park units during 2003: Grand Teton, Glacier, Yellowstone, Petrified Forest, Badlands, Hawaii Volcanoes, and Haleakala National Parks; Kalaupapa, Kaloko-Honokohau, and Pu'uhonuau o Honaunau National Historical Parks; Puukoloa Heiau National Historic Site; Lake Mead National Recreation Area; Navajo and Canyon de Chelly National Monuments; and Mount Rushmore National Memorial. ■

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NPS**FACT**

The National Park Service formulates annual budget requests based, in part, on anticipated work levels needed to address a wide variety of potential resource impairment issues in parks. For example, **for FY 2004 it estimates that it will review 40 applications** for proposed new air emission sources within 200 miles of national parks, **inspect 25 new (of approximately 700 active)** mineral extraction operations in parks, and respond to chronic wasting disease in wildlife populations at two national parks. It also estimates that it will treat 83,000 acres (33,615 ha) of invasive exotic plants,* resolve water quantity issues in 10 park units, and assess airborne contaminants in nine parks.

**The National Park Service exceeded its FY 2003 performance goal of containing exotic vegetation on 122,600 acres (49,653 ha) by 144,880 acres (58,676 ha), bringing the total contained to 267,480 acres (108,329 ha). This gain of more than 100,000 acres (40,500 ha) reflects the deployment of seven additional Exotic Plant Management Teams and the continuing priority of parks to address harmful invasive species.*